



INTERNATIONAL ATOMIC ENERGY AGENCY
AGENCE INTERNATIONALE DE L'ENERGIE ATOMIQUE
МЕЖДУНАРОДНОЕ АГЕНТСТВО ПО АТОМНОЙ ЭНЕРГИИ
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IN REPLY PLEASE REFER TO:
PRIERE DE RAPPELER LA REFERENCE: SC/821

10 April 1969

Dear Professor Lederberg,

Thank you for your letter of 13 March 1969. I have enclosed under separate cover a few published materials on the subject of microorganisms in reactor waters. These might be of interest to you and will provide some additional references and information on the location of institutes engaged in such studies. As soon as I come across such material in the future I will send information to you.

The reason why we are interested in such information is the following: Continued efforts are being made to promote the beneficial applications of atomic energy in the aspects of water and sewage treatment and radiosterilisation of biomedical and pharmaceutical products. Development of such techniques and technology and their successful implementation relies to a great extent on the basic radiobiological information relating to the important contaminating microorganisms. Disinfection of water, sewage and biomedical products require exposures to very high radiation doses. Research reactors in operation in a number of countries can be used as the first step to investigate the response of such microorganisms in an environment of very high radiation dose levels at varying distances from the source. Qualitative and quantitative studies on the density of plankton flora in samples from various depths should help determine the suitable zone for investigations. Well controlled experiments using genetically well known test organisms can be conducted by immersing the closed capsules containing such test organisms and thus exposing those to high doses of radiations. Such test organisms could subsequently be studied for survival, induced mutations, radioresistance and possible associated repair phenomena.

We would greatly appreciate your comments and continuing interest in our programme. With best regards

yours sincerely

R.N. Mukherjee
Unit of Radiation Biology
Division of Life Sciences

CF: Gopal Agrawal
(no reply)